SB761
U7S7
90-6

United States
Department of
Agriculture

**Forest
Service**

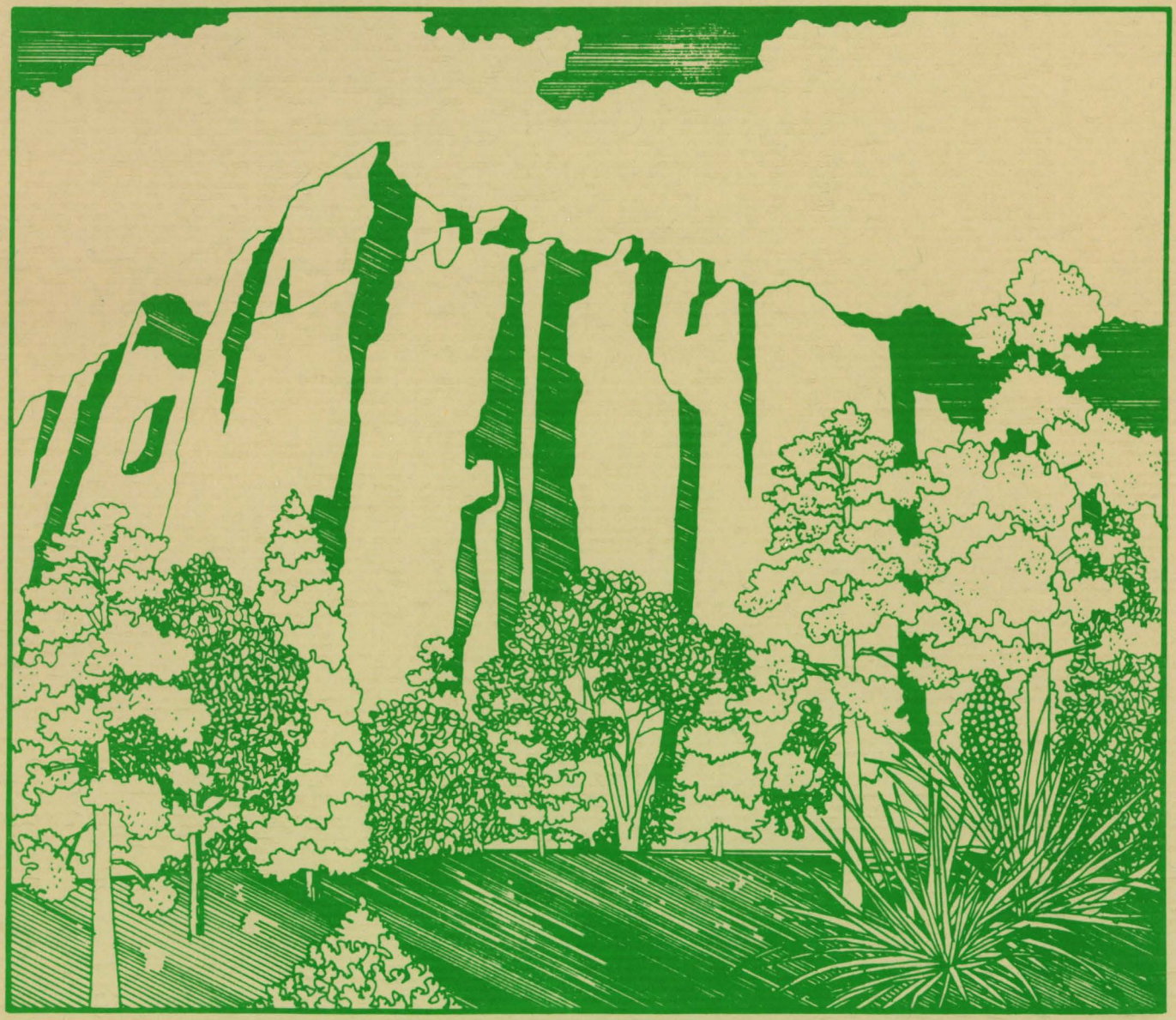
Southwestern
Region

Forest Pest Management Report

R-3 90-6

BIOLOGICAL EVALUATION OF PEST CONDITIONS AND POTENTIAL HAZARD TREES OCCURRING WITHIN THE CANJILON LAKES RECREATION AREA, CARSON NATIONAL FOREST, NEW MEXICO

MARCH 1990



LIBRARY COPY
ROCKY MTN. FOREST & RANGE
EXPERIMENT STATION

3420

R-3 90-6

BIOLOGICAL EVALUATION OF PEST CONDITIONS AND POTENTIAL HAZARD TREES OCCURRING WITHIN THE CANJILON LAKES RECREATION AREA CARSON NATIONAL FOREST, NEW MEXICO

MARCH 1990

By

Terrence J. Rogers

USDA Forest Service, Southwestern Region
State and Private Forestry
Forest Pest Management
517 Gold Avenue, SW
Albuquerque, New Mexico 87102

ABSTRACT

In 1989, Forest Pest Management R-3, initiated an Insect and Disease Incidence Survey Program of recreation sites. The purpose of this program was to evaluate the overall "health" of proposed and existing recreations areas on the National Forests in the Southwest. This report summarizes the insect and disease conditions and hazard trees occurring at the Canjilon Lakes Recreation Area in northern New Mexico. Aspen diseases are abundant and causing widespread damages, including significant tree mortality throughout the recreation area. Many of these infected and dead trees pose a hazard to both visitors and facilities. Since this recreation area is scheduled for rehabilitation some time in 1990, management alternatives and recommendations are presented for consideration.

OBJECTIVES

The objectives of this survey were to: (1) Evaluate and document the incidence of insect and disease damages occurring at the Canjilon Lakes Recreation Area, and (2) identify and document hazardous trees.

SURVEY DESIGN

The survey design consisted of a 100 percent tree examination survey. Every tree within each of the three recreation sites comprising the Canjilon Lakes Recreation Area was examined for signs of insect and disease related damages. The pest and pest related damages were documented following the procedures described in the "Inventory of Insects, Diseases, and Hazard Tree Work Plan for Developed and Proposed Recreation Sites of National Forest System Lands, Southwestern Region (Rogers, 1989)." Approximate locations of the pest damages found and their distribution were plotted on site design plan maps obtained from the Forest. All trees near and adjacent to campsites, picnic areas, and other recreation facilities showing signs of insect, disease, or mechanical damages were also evaluated for degree of hazard following the procedures described below.

The system used to evaluate the degree of hazard posed by individual trees is patterned on the procedures described by Johnson (1981) and involves the factors that contribute to failure such as dead limbs, degree of lean, weak forks, and signs of insect and disease activity. Location of the tree and potential targets are also considered and a two part rating called the "Failure/Risk" rating is given to each inspected tree. The first part of this rating is an estimate of the probability that the tree, or a major portion thereof, will fall within the next five years; the second part is an estimate of the probability that the failed tree will hit the potential target. These probabilities are rated on a scale of HIGH (H), MEDIUM (M), and LOW (L). Refer to enclosed Tree Hazard Evaluation Forms. Only trees located in areas more likely to be occupied by people or property were evaluated and recorded on the evaluation form.

PROFILE OF THE CANJILON LAKES RECREATION AREA

The Canjilon Lakes Recreation Area, Canjilon Ranger District, CNF, is located on Canjilon Mountain, in northern New Mexico. The Canjilon Lakes Recreation Area was developed in 1962 as part of "Project Outdoors", a Forest Service program designed to expand recreation facilities in National Forests. This recreation area is located at elevations ranging between 9,600 and 9,800 feet in stands predominantly composed of mature and overmature aspen. This recreation area consists of Lower and Middle Canjilon Lakes Campgrounds (CG) and Upper Canjilon Lakes Picnic Area (PA). Following is a brief description of these recreation sites.

Lower Canjilon Lakes CG. This campground is approximately 1.6 acres in size consisting of a single loop and 10 campsites. The forest cover type is comprised predominantly of overmature aspen (120 years in age and older) interspersed with minor amounts of overstory and understory mixed conifer (true firs and spruce). Small areas of aspen regeneration were evident in openings scattered throughout the campground. These openings appear to have been created from past and recent windthrows and by the intentional removal of standing dead trees in an effort to minimize hazardous trees.

Middle Canjilon Lakes CG. This campground, the largest of the three recreation sites, is two acres in size. It consists of three loops containing 30 campsites. The aspen stands in this campground are predominantly two-storied consisting of pole and sawtimber-sized trees interspersed with mixed conifer (true firs and spruce). Aspen saplings were common around the individual campsites and abundant along the perimeter of the campground boundary.

Upper Canjilon Lakes PA. This picnic area is the smallest of the recreation sites averaging just under one acre in size. This recreation site consists of a central parking area, ten picnic tables and three fireplaces fixed in place. This site, which is primarily designated for day use, is located in a sparse stand of mature and overmature aspen. It is surrounded by marsh, meadow, a small population of aspen saplings, and clumps of sapling and pole-sized mixed conifer.

RESULTS

Disease related tree damages are abundant and widespread throughout the aspen stands comprising the Canjilon Lakes Recreation Area (Figures 1, 2, & 3, Appendix). Within the three recreation sites surveyed, a total of 947 trees were recorded infected with aspen diseases. Approximately 69 percent of these trees (654 trees) were standing dead, killed within the last two to three years. Forty-nine percent of these dead trees were saplings; 18 percent, poles; and 33 percent, mature and overmature sawtimber-sized trees. Almost all of these disease-killed trees, particularly those located within and adjacent to campsites, exhibited signs of severe past and recent wounding. Incidence of disease and disease related tree losses were highest within the two campgrounds and lowest at the picnic area.

According to the results summarized, aspen cankers caused most of the aspen mortality that occurred within the aspen stands of the Lower and Middle Canjilon Lakes CGs and Upper Canjilon Lakes PA (Table 1, Appendix).

The most damaging of these canker diseases was sooty-bark canker, Encoelia pruinosa; and cytospora canker, Cytospora chrysosperma. Sooty-bark canker was found on 71 percent of the dead trees examined (464 trees) and cytospora canker on 25 percent (162 trees) of the trees. Tree death was attributed to a canker disease only if a standing dead tree was observed to be girdled by a canker. Sooty-bark canker is very aggressive and can cause tree mortality within four to five years after initial infection (Walters and Beatty, 1984). Cytospora canker, on the other hand, although generally not considered a vigorous parasite on healthy trees, hastens the death of trees injured by weather, other diseases, or man. Minor aspen mortality was also caused by hypoxylon canker, Hypoxylon mammatum; black canker, Ceratocystis fimbriata; and chryptospheria canker, Chryptospheria populina, infections. These canker diseases often occurred in combination with sooty-bark and cytospora cankers and hasten the death of trees already infected with the more aggressive disease pathogens.

Other fungal diseases affecting aspen at the Canjilon Lakes Recreation Area included aspen trunk rot (false tinder fungus), Phellinus tremulae; white mottled rot (artists conk), Ganoderma applanatum; and armillaria root rot, Armillaria sp. With the exception of aspen trunk rot, these diseases were primarily incidental and of little importance. Aspen trunk rot, on the other hand, was widely scattered throughout the three recreation sites surveyed (refer to Figures 1, 2, & 3, Appendix). Although this disease is not considered to be a major cause of aspen mortality, it is the most common cause of defect in aspens. Trees with advanced signs of trunk decay (two to three conks within 16 feet of the ground) are especially susceptible to failure from windthrow.

Although all of the aspen mortality occurring at the Canjilon Lakes Recreation Area was attributed to one or a combination of aspen disease pathogens, they were basically secondary causes (Hinds, 1976). The primary cause of the observed mortality was mechanical injury from trunk wounding (intentional or unintentional), which predisposed the trees to disease infection (Figures 4 and 5, Appendix). The bark of western aspen is smooth, soft and living, therefore, it is extremely susceptible to wounding. Wounds not only cause physical damage, but also provide entry points for canker diseases, the single most important cause of aspen mortality (Hinds, 1976 and Walters et al., 1882). Aspens in recreation areas (campgrounds, picnic areas, etc.) are particularly susceptible to trunk wounding from campers, subsequent disease infection, and hazard tree development.

During this survey, a total of 338 trees were rated for hazard by the evaluation team. Most of the trees rated were in the high-medium failure/high risk category (267 trees). The majority of the these hazardous trees (category 1) had major structural defects caused by decay in the main trunks and/or were located near permanent structures or sites frequented by recreationists. Approximately 80 percent of the trees rated for hazard (268 trees) were dead, increasing the probability of their failure from windthrow and/or snow loading within the next year or two. The number of hazard trees rated are summarized by rating category and area surveyed in Table 2 (Appendix). A more complete description of the hazard trees rated and their exact locations are recorded on the hazard tree evaluation forms provided to the forest managers (Figure 6, Appendix). Figures 7, 8, and 9 (Appendix), show the approximate location and distribution of the hazard tree identified and documented during this survey. The hazard ratings provided are not recommendations for action. They are a

professional estimate of tree failure and should be used by the land manager during the decision-making process when developing management plans for the recreation area. Highest priority should be given to category 1 (H/H) and category 2 (M/H) trees. These trees are the most prone to failure within the next few years and provide the greatest risk to property and visitor safety.

BIOLOGIES OF IMPORTANT DISEASES

1. Sooty-bark canker, Encoelia pruinosa. Sooty-bark canker (Figure 10, Appendix) is named for the black residue formed under the infected bark that adheres tightly to the trunk for many years, even after tree death. This canker is much more aggressive than cytospora canker and can cause tree mortality within four to five years after initial infection. Spores of the fungus are formed on light-gray, cup-shaped fruiting bodies on the old, dead inner bark. This disease also occurs in association with cambial wounds; the fungus infects trunk wounds and penetrates the inner bark and cambium. The dead outer bark sloughs off two or three years after initial infection, exposing the blackened inner bark in an elliptical, zonate pattern.

2. Cytospora canker, Cytospora chrysosperma. This disease is widespread on aspen (Figure 11, Appendix). Infected branches or stems contain tiny, dark, pimple-like spore bodies (Figure 12, Appendix) which produce orange to dark red spore masses. Wood beneath the canker is often stained light brown. In general, little mortality is caused by this disease. Cankers may also be found in association with wounds or natural openings in the bark. This canker is not considered a vigorous parasite on healthy trees, but can hasten the death of trees injured or weakened by other agents such as weather, insects, other diseases, and man, eventually causing them to fail.

3. Aspen trunk rot, Phellinus tremulae. This disease is the most common cause of defect in aspen. Fruiting bodies or conks of this fungus (Figure 13, Appendix) are frequently found on stems of living and dead trees and often occur near branch stubs or old wounds. Conks are hoofed shaped; the upper surface is gray to black and divided into irregular squares by numerous cracks. The interior of the conk has white flecks and a layered appearance; the color of the lower surface varies from tan to white to dark brown and has many tiny spores. Trees with more than three conks above 16 feet are generally severely decayed and susceptible to windthrow at any time. This decay is most common in overmature stands; however, it can also infect young trees.

MANAGEMENT ALTERNATIVES

1. Do Nothing. Because of the frequency of mechanical injury to aspen trunks in campgrounds by recreationists and because this damage is the main precursor to early tree mortality (Hinds, 1976), the number of diseased trees and hazard trees within the Canjilon Lakes Recreation Area will continue to increase. Trees currently rated as potential hazards will continue to decline and the probability of failure will increase. The possibility of tree failure with property damage and injury to people will also increase. As the trees die and are removed, the stand will become increasingly more open and susceptible to sunscalding and windthrow. Overall tree vigor will decline and mortality will continue to increase. Tree wounding and eventual mortality will continue to

spread outward from the immediate perimeter of the campsites, until even the trees once used for screening purposes are lost, causing the eventual closure of the site(s). The average expected life of an aspen overstory in campgrounds is 25 to 30 years (Hinds, 1976).

2. Remove Hazard Trees or Lessen the Probability of Failure of Hazard Trees. This alternative would involve removing trees that have been identified as potential hazard trees or pruning dead branches. Of highest priority would be the category 1 (H/H) and 2 (M/H) trees. The land manager must decide on the level of risk that is acceptable in an area, then remove the hazard trees and branches until that risk level is attained. Hazard tree surveys should be conducted annually to insure an acceptable level of risk is then maintained. Hazard trees should be removed prior to opening recreation areas to the public.

3. Remove Hazard Tree Targets. Under this alternative, selected areas within the campground that are identified as targets are closed to public use. Removal of potential targets will remove the problem of hazardous trees.

4. Species Conversion. Transplant large conifers into undesirable openings and underplant areas of declining aspen with habitat compatible conifers such as Douglas-fir, true firs, and spruce.

5. Erect Interpretive Signs. Because of the fragile nature of aspen bark and its susceptibility to trunk wounding and subsequent fungal infection in recreation areas, interpretive signs showing users why they should not injure tree trunks may be beneficial in prolonging the life of the recreation area.

6. A Combination of Alternatives 2, 3, 4, & 5. These alternatives are not mutually exclusive and can be used in combination to solve specific problems in many areas.

RECOMMENDATIONS

I recommend an appointed Interdisciplinary Team be charged with developing a long-term, site specific vegetation management plans designed to promote a succession of vegetation that also reduces the incidence of insect and disease and hazard tree development. Because of the anticipated fate of the aspen at the Canjilon Lakes Recreation Area, this plan should consider favoring a more durable forest cover type than aspen (mixed conifers) if maintenance of tree cover is important in the long run. Where tree losses from windthrow, disease, and/or hazard tree removal have already reduced overall campsite desirability, transplanting large conifers from off site may be an acceptable means of extending the life of the site while at the same time reducing its susceptibility to visitor injury.

I further recommend that all existing H/H and H/M risk hazard trees be removed from these recreation sites as soon as possible; and that annual inspections be made to identify and remove subsequent hazards. In addition, I recommend interpretive signs be developed and installed within these sites to educate site users on the detrimental effects of tree injury.

ACKNOWLEDGEMENTS

Appreciation is extended to Peter Conklin and Eric Johnson, Biological Aids, and Tracy Wager, Forest Pest Management Cooperative Education Student, Colorado State University, Fort Collins, CO, for their assistance in field work.

REFERENCES

1. Hinds, T.E. 1976. Aspen mortality in Rocky Mountain campgrounds. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Research Paper RM-164, 20 pp.

2. Johnson, D.W. 1981. Tree hazards: Recognition and reduction in recreation sites. USDA Forest Service, Timber, Forest Pest Management, and Cooperative Forestry Management, Rocky Mountain Region, Technical Report R2-1, 17 p.

3. Rogers, T.J. 1989. Inventory of insects, diseases, and hazard tree incidence work plan for developed and proposed recreation sites of National Forest System Lands, Southwestern Region, unpublished report. USDA Forest Service, Southwestern Region, Albuquerque, NM, 38 pp.

4. Walters, James W. (Rev. by Jerome Beatty). 1984. An aid to identifying aspen diseases frequently encountered in the Rocky Mountains. USDA Forest Service, Forest Pest Management, Southwestern Region, 20 pp.

5. Walters, W., Hinds, Thomas E., Johnson, David W., and Jerome Beatty. 1982. Effects of partial cutting on disease, mortality, and regeneration of Rocky Mountain aspen stands.

APPENDIX

Table 1. Summary of aspen diseases, damages, and tree losses found at Lower and Middle Canjilon Lakes CGs and Upper Canjilon Lakes PA, Canjilon Ranger District, Carson National Forest, New Mexico.

RECREATION AREA	PEST	COMMON NAME	LIVE INFECTED TREES	STANDING DEAD TREES	TOTAL
Lower Canjilon Lakes CG					
	Armillaria sp.	Shoestring root disease	-	1	1
	Ceratocystis fimbriata	Black canker	11	2	13
	Cytospora chrysosperma	Cytospora canker	14	46	60
	Encoelia pruinosa	Sooty-bark canker	13	51	64
	Ganoderma applanatum	white mottled rot	1	1	2
	Hypoxylon mammatum	Hypoxylon	-	3	3
	Phellinus tremulae	Aspen trunk rot	52	4	56
		Total	91	108	199

Table 1 cont.

RECREATION AREA	PEST	COMMON NAME	LIVE INFECTED TREES	STANDING DEAD TREES	TOTAL
Middle Canjilon Lakes CG					
	Armillaria sp.	Shoestring root disease	2	-	2
	Ceratocysts fimbriata	Black canker	26	1	27
	Chryptospheria populina	Chryptospheria canker	1	2	3
	Cytospora chrysosperma	Cytospora canker	14	103	171
	Encoelia pruinosa	Sooty-bark canker	70	391	461
	Ganoderma applanatum	White mottled rot	1	1	2
	Hypoxylon mammatum	Hypoxylon canker	4	4	8
	Phellinus tremulae	Aspen trunk rot	67	7	74
		Total	185	509	694

Table 1 cont.

RECREATION AREA	PEST	COMMON NAME	LIVE INFECTED TREES	STANDING DEAD TREES	TOTAL
Upper Canjilon Lakes PA					
	Ceratocystis fimbriata	Black canker	2	-	2
	Cytospora chrysosperma	Cytospora canker	-	13	13
	Encoelia pruinosa	Sooty-bark canker	4	22	26
	Hypoxylon mammatum	Hypoxylon canker	2	2	4
	Phellinus tremulae	Aspen trunk rot	9	-	9
		Total	17	37	54

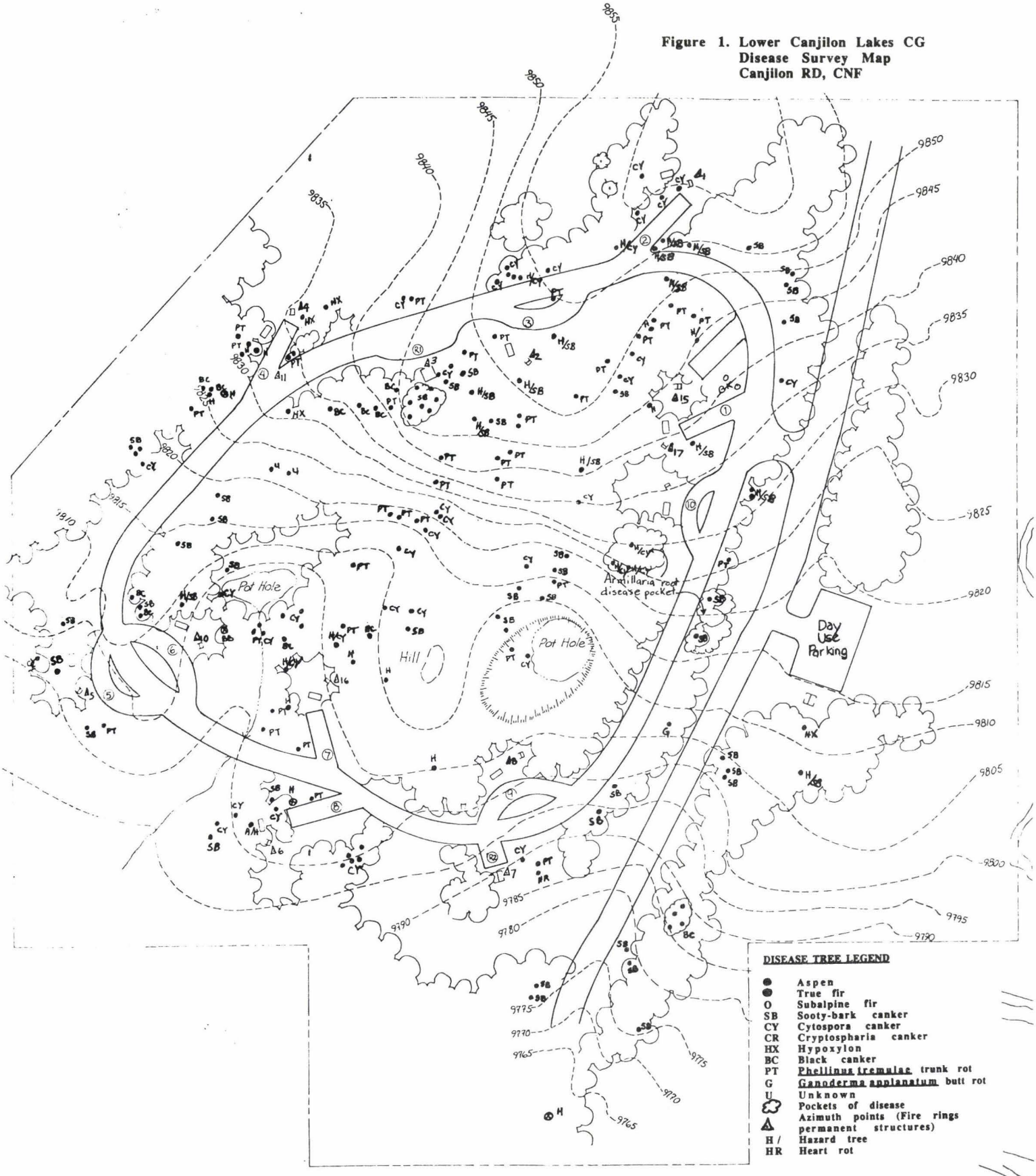
Table 2. Summary of hazard trees by rating category, and recreation site surveyed. Canjilon Lakes Recreation Area, Canjilon RD, Carson National Forest, NM.

Recreation Area	Number of Trees with Rating of H/H[a]	M/H	H/M	H/L	M/M	L/H	M/L	L/M	L/L	Total
Lower Canjilon Lakes CG	29	7	19	5	5	-	10	3	1	79
Middle Canjilon Lakes CG	205	20	22	1	2	1	-	-	1	252
Upper Canjilon Lakes PA	5	1	-	-	-	1	-	-	-	7
TOTAL	239	28	41	6	7	2	10	3	2	338

CG=Campground; PA=Picnic Area

[a] Failure/Risk Rating: H=High, M=Medium, L=Low

Figure 1. Lower Canjilon Lakes CG
Disease Survey Map
Canjilon RD, CNF



DISEASE TREE LEGEND

●	Aspen
●	True fir
O	Subalpine fir
SB	Sooty-bark canker
CY	Cytospora canker
CR	Cryptospharia canker
HX	Hypoxylon
BC	Black canker
PT	Phellinus tremulae trunk rot
G	Ganoderma applanatum butt rot
U	Unknown
	Pockets of disease
△	Azimuth points (Fire rings permanent structures)
H /	Hazard tree
HR	Heart rot

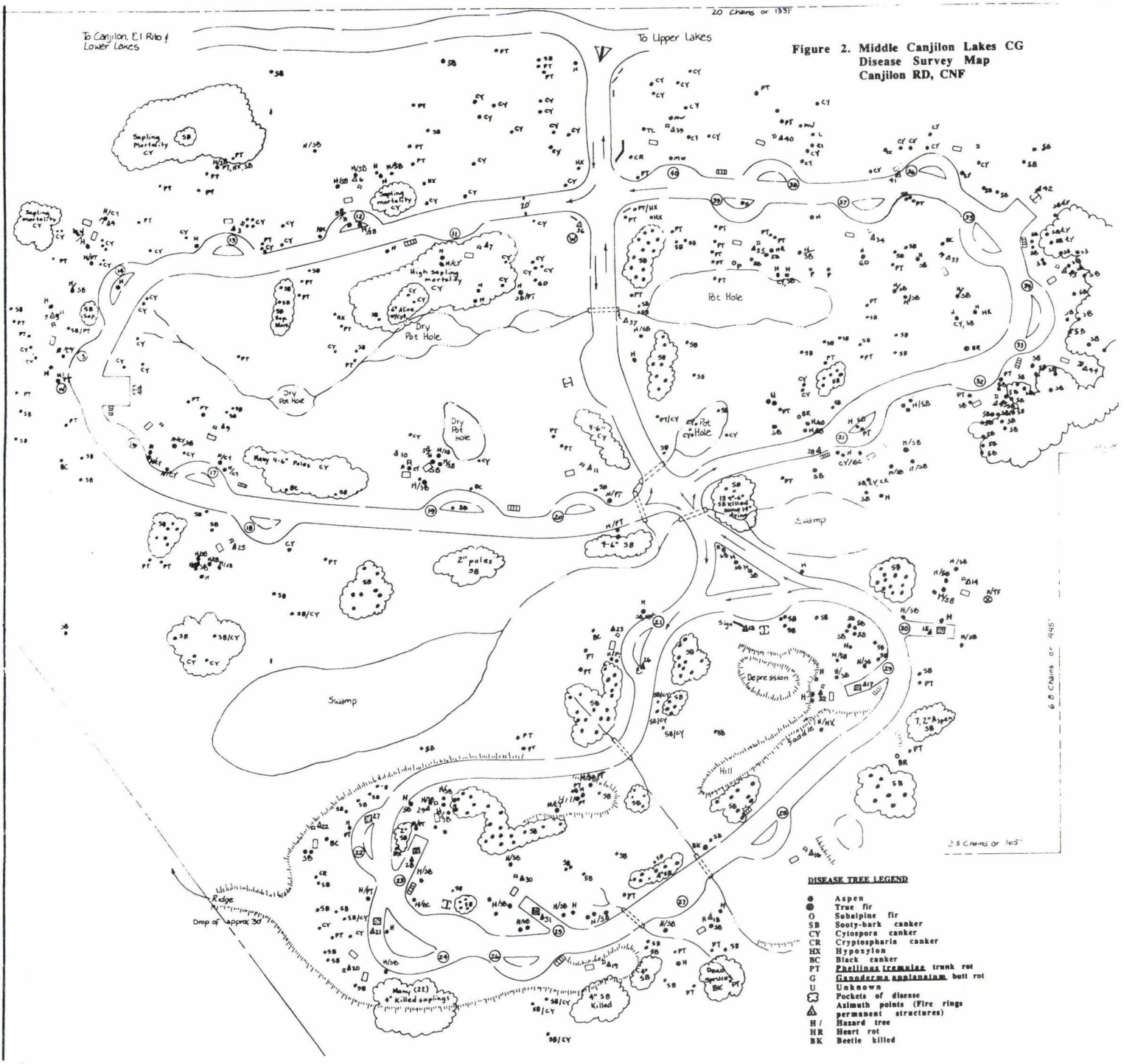
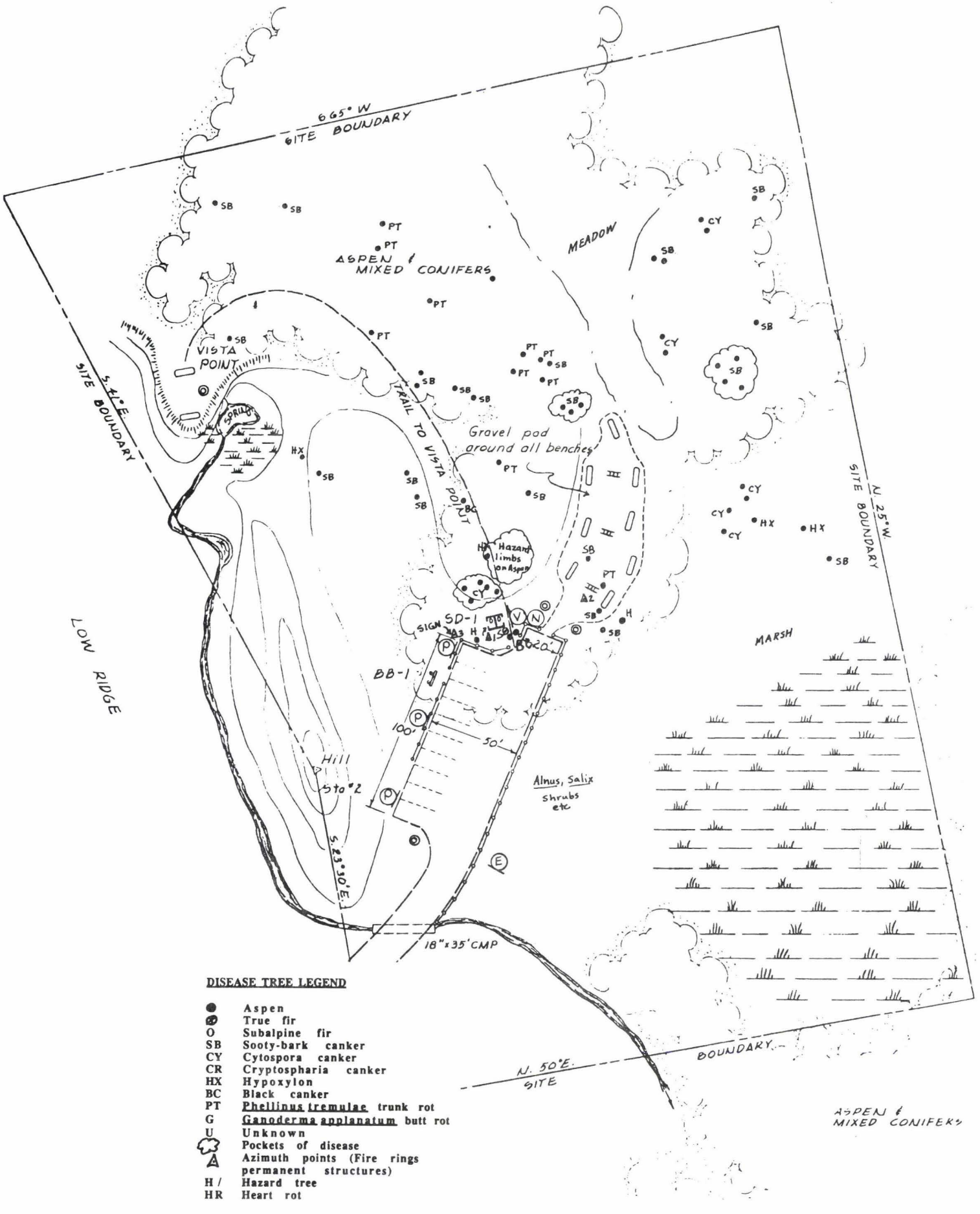


Figure 2. Middle Canjilon Lakes CG Disease Survey Map Canjilon RD, CNF

DISEASE TREE LEGEND

●	Aspen
●	True fir
O	Subalpine fir
SB	Sooty-bark canker
CY	Cytospora canker
CR	Cryptosphaeria canker
HX	Hypoxylon
BC	Black canker
PT	Phellinus tremulae trunk rot
G	Ganoderma applanatum butt rot
U	Unknown
	Pockets of disease
	Azimuth points (Fire rings permanent structures)
H/	Hazard tree
HR	Heart rot
BK	Beetle killed

Figure 3. Upper Canjilon Lakes PA Disease Survey Map Canjilon RD, CNF



DISEASE TREE LEGEND

●	Aspen
⊗	True fir
O	Subalpine fir
SB	Sooty-bark canker
CY	Cytospora canker
CR	Cryptospharia canker
HX	Hypoxylon
BC	Black canker
PT	Phellinus tremulae trunk rot
G	Ganoderma applanatum butt rot
U	Unknown
	Pockets of disease
A	Azimuth points (Fire rings permanent structures)
H /	Hazard tree
HR	Heart rot

Figure 4. Mechanical injuries characteristically found on aspens at campsites. Trunk wounds are prime entrance points for canker diseases.

Figure 5. Campsite with heavily wounded tree in foreground and hazardous dead trees in background.

TREE HAZARD EVALUATION

EXHIBIT 8 Page 1 of 29

Administrative unit: Canjilon Carson NF

Examined by _____

Site name: Middle Canjilon Lake C.G.

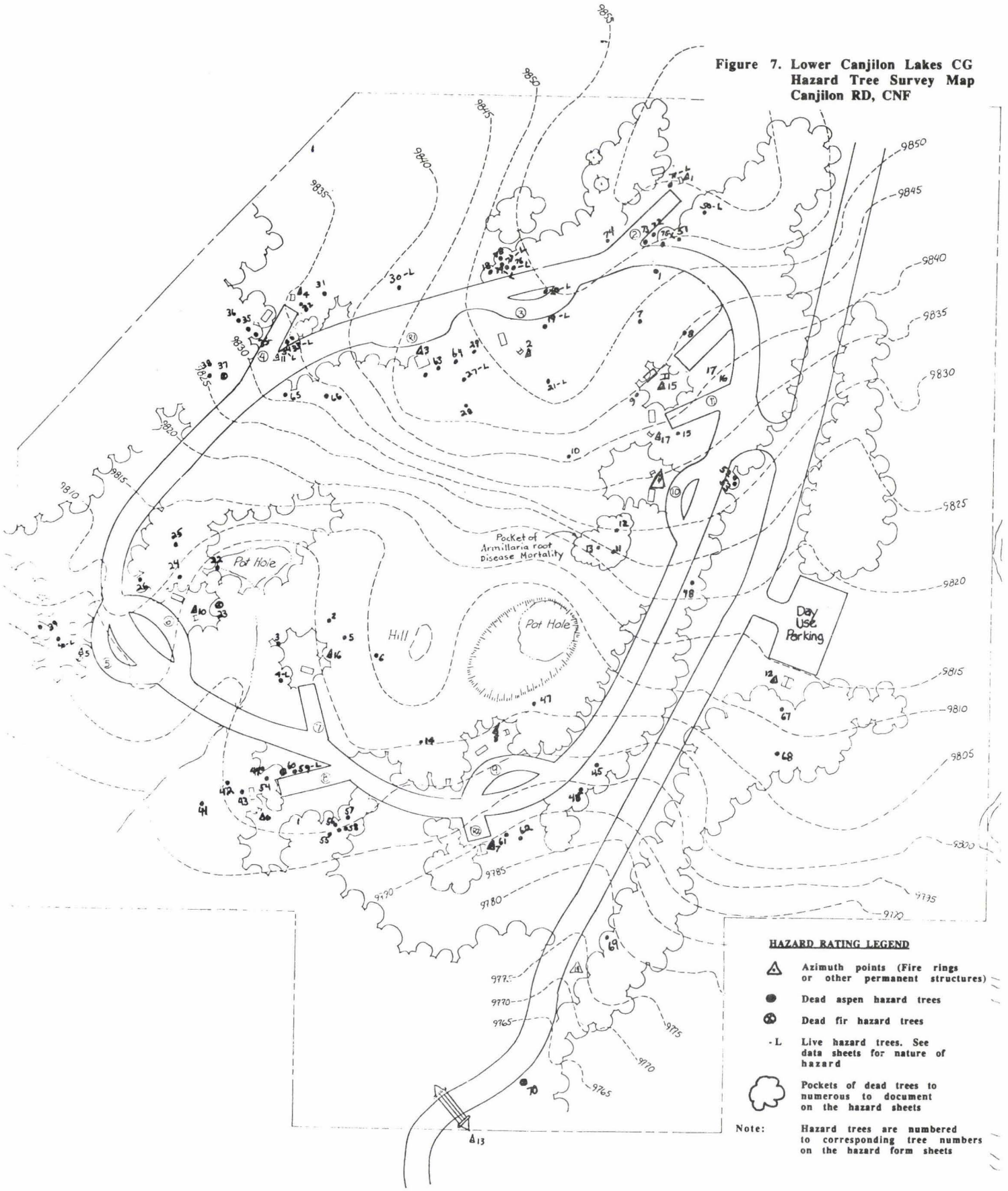
Date : July 19, 1989

Campground or Unit No.	Tree Location (azimuth and distance from fixed object)[1]	Species	DBH	*See Abbreviations Type of defect: Leaning (angle of lean)	Up-rooting, root rot, butt rot, basal cavity	Bole wounds, bole cankers, decay (conks)	Weak fork, limb defect, brooms, dead top	Potential targets: Permanent structure, parked vehicle, people	Permanent structure, high-use trails	Low-use trails, signs	Failure rating[2] H	Failure rating[2] Medium	Failure rating[2] L	Risk rating[3] H	Risk rating[3] Medium	Risk rating[3] L	Additional comments	Action
	ABBREVIATIONS: TO=Toilet, TB=Table, FR=Fire ring, PP=Parking pad, TP=Tent pad, WH=Water hydrant, BG=Bridge, TC=Trash can, TD=Trailer dump																*DEFECT ABBREVIATIONS: RR=Root rot, BR=Bole or butt rot, BW=Bole wound, BC=Basal cavity, LD=Limb defect, WF=Weak Fork, C=Conk(s), DT=Dead top, ER=Exposed roots	
1	From Entrance sign 224° 30'	A	21.3		X		X	X				X		X			Dead	
2	From Concrete tank near site 12 79° 111'	A	12.7						X		X			X			Dead	
3	206° 19'	A	12.1					X			X			X			Dead	
4	284° 61'	A	16.6						X		X			X			Dead	
5	From fire ring site 13 345° 53'	A	13.0					X			X			X			Dead	
6	From fire ring site 14 87° 14'	A	6.5			X		X					X			X	Tree nearly girdled	
7	179° 31'	A	15.4						X			X		X			LD	
8	177° 59'	A	14.9						X			X			X		LD	
9	207° 69'	A	15.6			X	X			X	X				X		WF, LD	

1 Sketch map on reverse side.
2 Probability of a tree failing within the next 5 years.
3 Probability of a tree hitting a potential target.

Figure 6. Example of completed tree hazard evaluation form provided to Forests.

Figure 7. Lower Canjilon Lakes CG Hazard Tree Survey Map Canjilon RD, CNF


Pocket of Armillaria root Disease Mortality
Pot Hole
Hill
Pot Hole
Day Use Parking
HAZARD RATING LEGEND
Azimuth points (Fire rings or other permanent structures)
Dead aspen hazard trees
Dead fir hazard trees
-L Live hazard trees. See data sheets for nature of hazard
Pockets of dead trees to numerous to document on the hazard sheets
Note: Hazard trees are numbered to corresponding tree numbers on the hazard form sheets

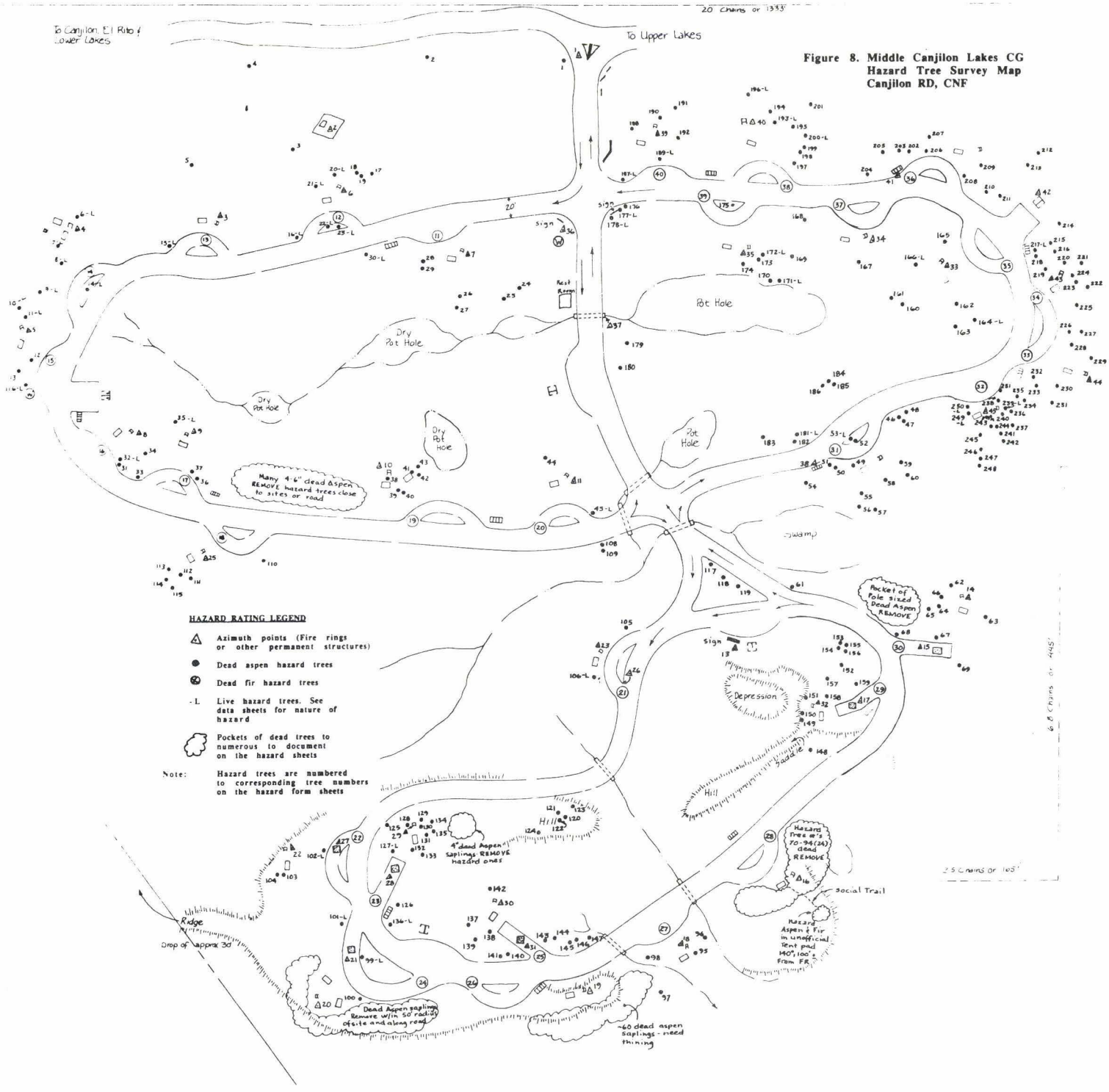
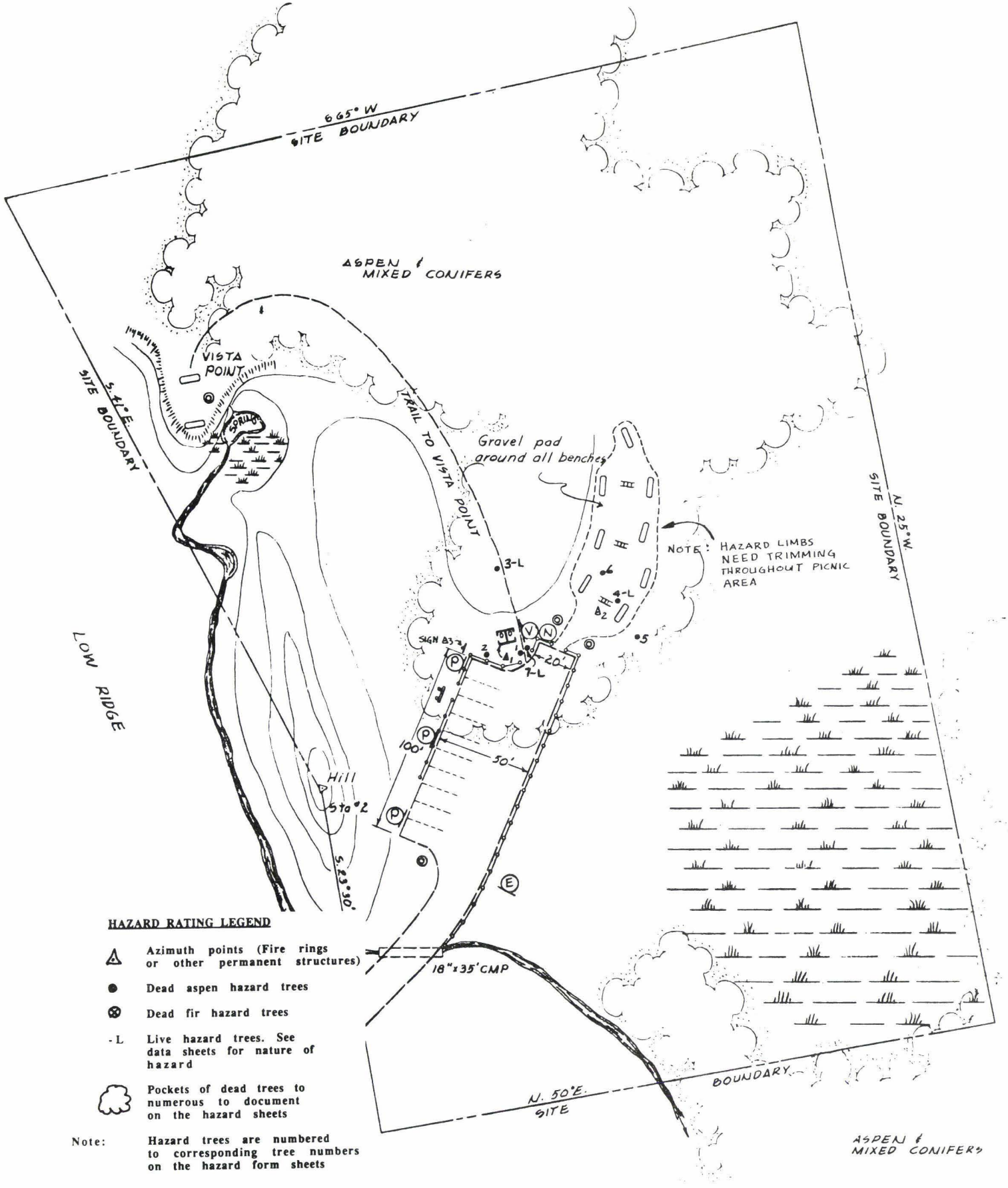

To Canjilon, El Rito & Lower Lakes
To Upper Lakes
20 Chains or 1333'
Pot Hole
Dry Pot Hole
Dry Pot Hole
Dry Pot Hole
Pot Hole
Many 4-6" dead Aspen REMOVE hazard trees close to sites or road
Swamp
Pocket of Pole sized Dead Aspen REMOVE
Depression
Saddle
Hill
Hill
4" dead Aspen saplings REMOVE hazard ones
Hazard Trees 4"-7.9" 70-94(24) dead REMOVE
Social Trail
Hazard Aspen & Fir in unofficial Tent pad 140', 100' from FR
Ridge
Drop of approx 30'
Dead Aspen saplings Remove w/in 50' radius of site and along road
~60 dead aspen saplings - need thining
6.6 Chains or 445'
2.5 Chains or 165'
HAZARD RATING LEGEND
Azimuth points (Fire rings or other permanent structures)
Dead aspen hazard trees
Dead fir hazard trees
-L Live hazard trees. See data sheets for nature of hazard
Pockets of dead trees to numerous to document on the hazard sheets
Note: Hazard trees are numbered to corresponding tree numbers on the hazard form sheets

Figure 8. Middle Canjilon Lakes CG Hazard Tree Survey Map Canjilon RD, CNF

Figure 9. Upper Canjilon Lakes PA Hazard Tree Survey Map Canjilon RD, CNF



HAZARD RATING LEGEND

- Azimuth points (Fire rings or other permanent structures)
- ● Dead aspen hazard trees
- ⊗ Dead fir hazard trees
- -L Live hazard trees. See data sheets for nature of hazard
- Pockets of dead trees to numerous to document on the hazard sheets

Note: Hazard trees are numbered to corresponding tree numbers on the hazard form sheets

Figure 10. Aspen killed by sooty-bark canker, Encolia pruinosa.

Figure 11. Mature aspen killed by cytospora canker, Cytospora chrysosperma. Note wounding which served as entry point of infection.

Figure 12. Cytospora canker-infected tree showing characteristic pimple-like bodies which produce spore mass.

Figure 13. Conk of aspen trunk rot fungus, Phellinus tremulae, an indicator of extensive trunk rot.